

In the CLAIMS Section

Please add new claims 44-71 as follows:

1 44. (new) A method of probing a material under investigation comprising:
2 transmitting at least two overlapping ultrasound beams into the material under
3 investigation wherein the at least two overlapping ultrasound beams are
4 displaced in at least one spatial dimension;
5 receiving echoes generated by interactions between the at least two overlapping
6 ultrasound beams and the material under investigation;
7 generating data from the received echoes, the data having a value that includes
8 magnitude and phase information and is associatable with the at least one
9 spatial dimension; and
10 combining the generated data from the received echoes prior to receive beam
11 formation, wherein the combining comprises adjusting the magnitude
12 and phase of the generated data.

1 45. (new) The method of claim 44 wherein the at least two overlapping ultrasound
2 beams are focused.

1 46. (new) The method of claim 44 wherein the at least two overlapping ultrasound
2 beams are partially focused.

1 47. (new) The method of claim 44 wherein the at least two overlapping ultrasound
2 beams are unfocused.

1 48. (new) The method of claim 44 wherein the at least one spatial dimension is azimuth.

1 49. (new) The method of claim 44 wherein the at least one spatial dimension is azimuth
2 angle.

1 50. (new) The method of claim 44 wherein the at least one spatial dimension is the
2 combination of azimuth and azimuth angle.

1 51. (new) The method of claim 44 wherein the at least one spatial dimension is
2 elevation.

1 52. (new) The method of claim 44 wherein the at least one spatial dimension is
2 elevation angle.

1 53. (new) The method of claim 44 wherein the at least one spatial dimension is the
2 combination of elevation and elevation angle.

1 54. (new) The method of claim 44 wherein adjusting the magnitude and phase of the
2 data varies with depth.

1 55. (new) The method of claim 44 wherein adjusting the magnitude and phase of the
2 data is performed in the at least one spatial dimension directly.

1 56. (new) The method of claim 44 wherein adjusting the magnitude and phase of the
2 data is performed in a suitable linear transformation of the at least one spatial
3 dimension.

1 57. (new) The method of claim 56 wherein the suitable linear transformation is a
2 Fourier transform.

1 58. (new) A method of probing a material under investigation comprising:
2 transmitting at least two overlapping ultrasound beams into the material under
3 investigation wherein the at least two overlapping ultrasound beams are displaced in at
4 least one spatial dimension;
5 receiving echoes generated by interactions between the at least two overlapping
6 ultrasound beams and the material under investigation;
7 generating data from the received echoes, the data having a value that includes
8 magnitude and phase information and is associatable with the at least one spatial
9 dimension;
10 performing receive beam formation wherein identical receive beams are formed
11 from the at least two overlapping ultrasound beams; and
12 combining the generated data from the received echoes subsequent to receive
13 beam formation, wherein the combining comprises adjusting the magnitude and phase
14 of the generated data.

1 59. (new) The method of claim 58 wherein the at least two overlapping ultrasound
2 beams are focused.

1 60. (new) The method of claim 58 wherein the at least two overlapping ultrasound
2 beams are partially focused.

1 61. (new) The method of claim 58 wherein the at least two overlapping ultrasound
2 beams are unfocused.

1 62. (new) The method of claim 58 wherein the at least one spatial dimension is azimuth.

1 63. (new) The method of claim 58 wherein the at least one spatial dimension is azimuth
2 angle.

- 1 64. (new) The method of claim 58 wherein the at least one spatial dimension is the
2 combination of azimuth and azimuth angle.
- 1 65. (new) The method of claim 58 wherein the at least one spatial dimension is
2 elevation.
- 1 66. (new) The method of claim 58 wherein the at least one spatial dimension is
2 elevation angle.
- 1 67. (new) The method of claim 58 wherein the at least one spatial dimension is the
2 combination of elevation and elevation angle.
- 1 68. (new) The method of claim 58 wherein adjusting the magnitude and phase of the
2 data varies with depth.
- 1 69. (new) The method of claim 58 wherein adjusting the magnitude and phase of the
2 data is performed in the at least one spatial dimension directly.
- 1 70. (new) The method of claim 58 wherein adjusting the magnitude and phase of the
2 data is performed in a suitable linear transformation of the at least one spatial
3 dimension.
- 1 71. (new) The method of claim 70 wherein the suitable linear transformation is a
2 Fourier transform.